Environmental Remediation Group

Olin Corporation
3855 North Ocoee Street, Suite 200
Cleveland, TN 37312
(423) 336-4600
JMCashwell@olin.com

SENT VIA ELECTRONIC MAIL

June 4, 2020

Ms. Lynne Jennings and Ms. Melanie Morash
U. S. Environmental Protection Agency (USEPA), Region 1
5 Post Office Square, Suite 100,
Mail Stop OSRR07-4, Boston, MA 02109-3912

RE: Preliminary Floodplain Evaluation
Olin Chemical Superfund Site
Wilmington, Massachusetts

Dear Ms. Jennings and Ms. Morash:

The attached letter was prepared in response to discussions between Olin Corporation and the United States Environmental Protection Agency (USEPA) regarding potential impacts of remedies proposed for the Olin Chemical Superfund Site (the Site) on areas within the 100- and 500-year floodplains defined by the Federal Emergency Management Administration.

The attached preliminary evaluation indicates no substantive impacts within the 100- and 500-year floodplains are expected. However, further evaluation will be conducted, as appropriate, during the design phase for the selected remedies.

Please let us know if you have any questions.

Sincerely,
OLIN CORPORATION

James M. Cashwell
Director, Environmental Remediation

Enclosure

cc: Chinny Esakkiperumal (Olin)
Libby Bowen, Nelson Walter, Kerry Tull (Wood)

Wood Environment & Infrastructure Solutions, Inc.
271 Mill Road, Third Floor
Chelmsford, MA 01824
T: 978-692-9090

Technical Memorandum

To:	Chinny Esakkiperumal, James Cashwell		
From:	Nelson Walter	**Reviewer:**	Elizabeth Bowen
cc:	Michael Murphy	**Project No.:**	6107200016
Date:	4 June 2020		
Re:	**Preliminary Evaluation of Floodplain Impacts – Olin Chemical Superfund Site**		

This technical memorandum has been prepared to document our conclusions regarding an evaluation of floodplain pertinence to the remedial alternatives presented in the Operable Unit 1 and Operable Unit 2 Feasibility Study (OU1/OU2 FS) and the Interim Action Feasibility Study (IAFS) for the Olin Chemical Superfund Site (Site). Soil cover and/or capping alternatives have been developed for upland soil areas and the Containment Area, and soil excavation and cover alternatives are included for wetland soil and sediment areas. In addition, groundwater and DAPL alternatives may also impact portions of the property and Maple Meadow Brook Area (MMBA) that are located within floodplains. Some of these areas lie within the 1.0% Annual Change Floodplain (also referred to as the 100 year floodplain) and/or the 0.2% Annual Chance Floodplain (also referred to as the 500-year floodplain) as indicated by the Federal Emergency Management Administration (FEMA).

The FEMA National Flood Layer map, attached as **Figure 1,** indicates that the wetlands surrounding the MMBA are within the 100- year floodplain and that the central portion of the Olin-owned property is within the 500-year floodplain. Some of the remedial alternatives that involve installation of monitoring and/or extraction wells and access roadways in the MMBA wetlands are likely to have impacts within the 100-year floodplain and associated wetlands. After completion of work, there would be no significant net loss of flood storage capacity and no significant net increase in flood stage or velocities associated with these activities. Details of monitoring/extraction well and roadway installations and operation to minimize floodplain impacts will be defined during the remedial design phase with input from USEPA.

The FEMA 500-year floodplain elevation on the Site is approximately 80 feet above mean sea level (msl). The Containment Area, and some portions of the Site where soil covers are being considered for the upland soil areas are depicted on the FEMA maps to be within the 500-year floodplain, but the existing elevations of most of these areas are greater than the 80-foot floodplain datum based on the topography data from the National Oceanic and Atmospheric Administration (NOAA). The NOAA topographic contours of the containment area are at an elevation of approximately 85 ft above msl, and the topography of the remainder of the subject areas range from approximately 80 to above 85-ft

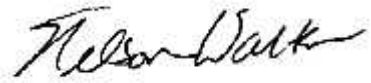
above msl. The Olin team has cross-checked these NOAA-based contours with existing containment area design data as well as local monitoring well elevations where known, this cross-check appears to support the NOAA elevation data for the Containment Area and surrounding upland soils. As noted in FEMA's guidance "Since FEMA usually does not have detailed topographic mapping to use in preparing the flood maps, the flood boundaries are interpolated. This can result in inaccuracies in drawing the boundaries on the map." It appears that the depiction of the extent of the 500-yr floodplain on Figure 1 inadvertently includes portions of the site where elevations are above 80 ft msl. (https://www.fema.gov/media-library-data/20130726-1535-20490-8858/is_9_complete.pdf).

Based on available data, it appears that the existing topological elevations within the Eames Street property are at or above the 500-yr floodplain elevation. As such, remedial alternatives that may potentially increase existing elevations may not have any substantive impact on the 500-yr floodplain storage. However, existing grades will be verified during pre-design investigations, and potential floodplain impacts, if any, will be communicated to USEPA and managed appropriately.

Sincerely,

Wood Environment & Infrastructure Solutions, Inc.

Prepared by:

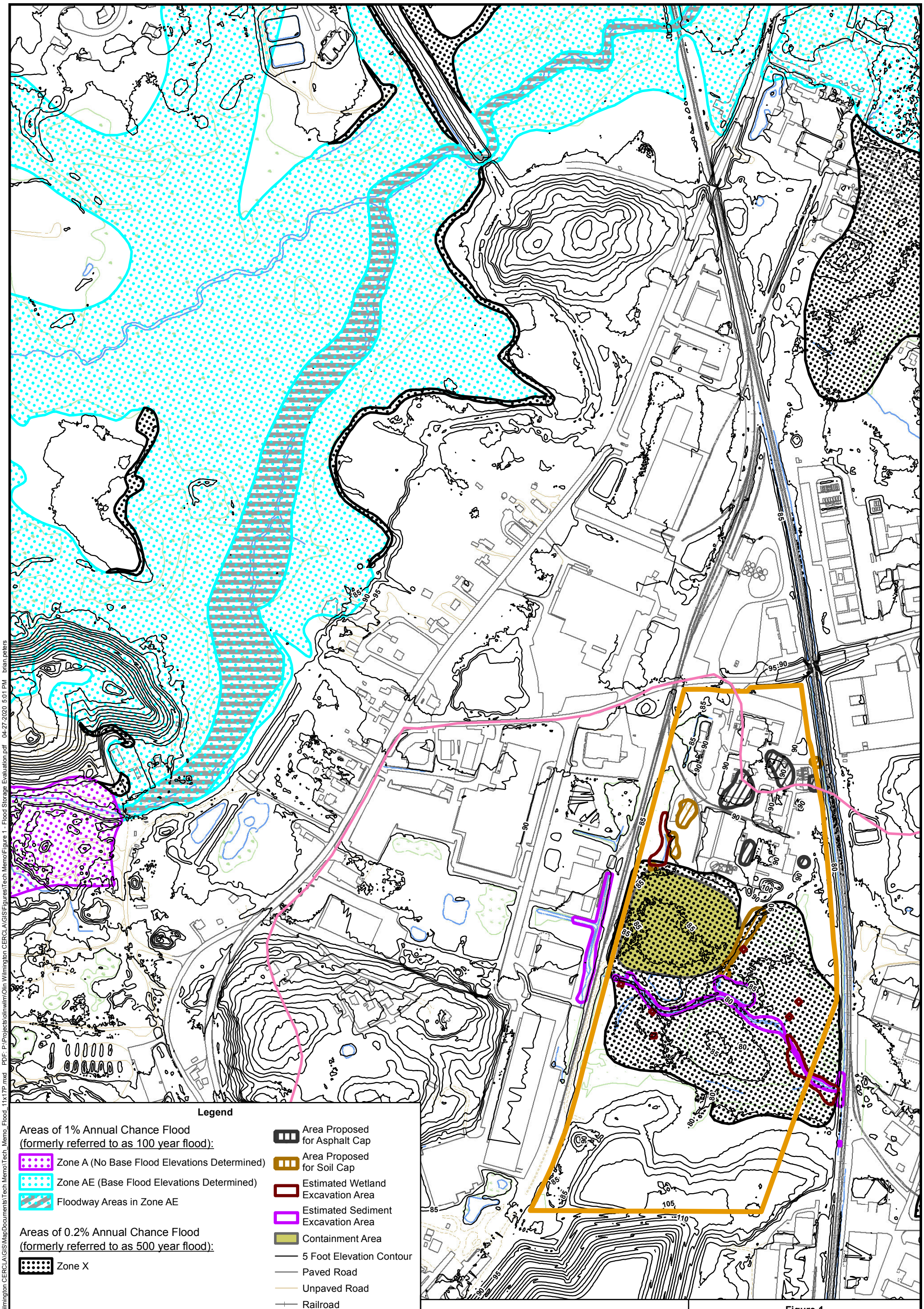


Nelson Walter, PE
Principal

Reviewed by:

Elizabeth T. Bowen
Associate Project Manager

FIGURE 1



Legend

Areas of 1% Annual Chance Flood
(formerly referred to as 100 year flood):

- Zone A (No Base Flood Elevations Determined)
- Zone AE (Base Flood Elevations Determined)
- Floodway Areas in Zone AE

Areas of 0.2% Annual Chance Flood
(formerly referred to as 500 year flood):

- Zone X

- Area Proposed for Asphalt Cap
- Area Proposed for Soil Cap
- Estimated Wetland Excavation Area
- Estimated Sediment Excavation Area
- Containment Area
- 5 Foot Elevation Contour
- Paved Road
- Unpaved Road
- Railroad
- Structures
- Surface Water
- Wetland Boundary
- 51 Eames St. Property Boundary
- Ipswich and Aberjona Watershed Boundary

Notes:
1. National Flood Hazard Layers obtained from FEMA: https://www.fema.gov/national-flood-hazard-layer-nfhl
2. Watershed obtained from MassGIS: https://docs.digital.mass.gov/dataset/massgis-data-major-drainage-basins

wood.
Wood
Environment & Infrastructure Solutions
271 Mill Road
Chelmsford, MA 01824

N

0 200 400 800 Feet

Figure 1
Flood Storage Evaluation

Technical Memoradum
Olin Chemical Superfund Site
Wilmington, Massachusetts

Prepared/Date: BRP 04-27-20 | Checked/Date: NW 04-27-20